

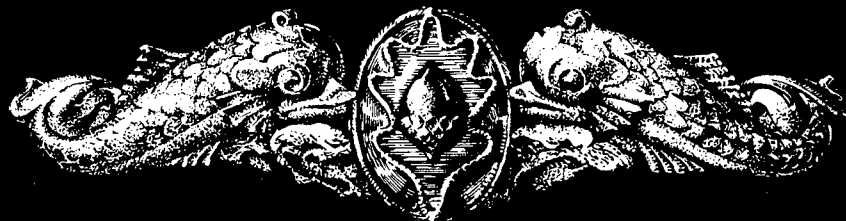
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# MEDICAL RESEARCH LABORATORY



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## THE INTERVIEW:

### III. Aids To The Interview - The Submariner Stereotype

by

William J. E. Crissy

and

Siroon Pashalian

Bureau of Medicine and Surgery, Navy Department,  
Project NM 002 016.01.03

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**THE INTERVIEW**

**III. Aids to the Interview -- The Submariner Stereotype**

by

**Wm. J.E. Crissy, PhD, and Siroon Pashalian, M.A.,  
Fordham University**

**Medical Research Laboratory Report No. 214**

**Bureau of Medicine and Surgery, Navy Department  
Project NM 002 016.01.03**

**Released by**

**Gerald J. Duffner  
Commander, MC, U.S.Navy  
Officer-in-Charge  
U.S.Naval Medical Research Laboratory  
20 October 1952**

**THIS REPORT CONCERNS . . . . .**

The application of a special measurement technique designed to differentiate submarine candidates from other naval groups, and successful candidates from those who are unsuccessful.

**IT IS FOR THE USE OF . . . . .**

Researchers in psychometrics, medical officers and psychologists concerned with research on the assessment of submarine candidates, and to a lesser extent, those concerned with similar problems involving special duty groups throughout the Department of Defense.

**THE APPLICATION FOR SUBMARINE MEDICINE . . . . .**

Will be in the follow-up research prompted by this study in the development of pencil-and-paper measures of personal and social adjustment characteristics, which may be related to success in the submarine force.

Issued by the Naval Medical Research Laboratory  
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## ABSTRACT

This report is the third of four reports in connection with research on the problem: "The reliability and validity of the assessment interview as a screening and selection technique in the submarine service."

The application of a special measurement technique which involves the double administration of a set of words or phrases in the frames of reference of, first, submariners, and second, the respondent's own self-picture, is investigated. Responses to items of the instrument by 1125 submarine candidates are analyzed for differences between these and the responses of two other naval groups, namely, recruits and receiving station personnel; for reliability; and finally, for validity in terms of the immediate criterion of graduation from Submarine School.

The findings show that submarine candidates are differentiated from the other naval groups in the significantly greater coincidence of aspects of their self-picture with those of their stereotype of a submariner. While most of the items are reliable, the present instrument does not differentiate those successfully graduated from those disqualified temperamentally, physically, or academically.

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## THE INTERVIEW:

### III . Aids to the Interview - The Submariner Stereotype

#### INTRODUCTION

The Submariner Stereotype is an inventory specially designed for use in connection with the screening and assessment of enlisted candidates for the submarine service. Items included in the present exploratory form were drawn from another study conducted at New London during the summer of 1950\*, and from the project director's experience during World War II as a line officer in the submarine service. In the previous study, all members of the crews of two submarines were interviewed to find out what they considered were the qualities of a good submariner and what they liked to see in their shipmates.

The inventory, (see Appendix A, The Submariner Stereotype) is composed of 40 items. Each item is a descriptive word or combination of words to which the respondent is asked to react. On the first administration, the respondent is asked to indicate by his choice of two responses to each item (are or are not) what he thinks submariners are or are not like. On a second administration, he is asked to indicate by his response what he thinks he himself is or is not like.

Two precautions are taken to reduce the effect of memory on the responses given on the second administration. First, a time lag of one to three days intervenes between the two administrations. Second, the items are presented in reverse numerical order on the second administration.

To illustrate the procedure, Item 3 on the first administration is "overpaid". The respondent checks on the line before the item if he thinks submariners are overpaid. He checks on the line following the item if he thinks submariners are not overpaid. On the second administration, this item appears as Item 38. The respondent checks before the

\* Crissy, W.J.E. and Willmon, T.L., Prediction of Performance of Enlisted Submarine Personnel, An Investigation of Existing "Predictor" and "Criterion" Measures in Two Atlantic Fleet Submarines, October 1950.



item if he thinks he is overpaid and after the item if he thinks he is not overpaid. Finally, after the respondent has answered all forty items on the occasion of each administration, he then goes back over his choices and circles the numbers of five items that seem to him to be the most important. For example, a respondent might encircle Item 32, "brave", as most important in a submariner. On the second administration, he might also encircle Item 9, "brave", indicating that he thinks brave is a most important aspect of himself.

The name Submariner Stereotype was given to this instrument because the respondent, in a sense, constructs a stereotype of what he thinks a submariner is like. The present exploratory hypothesis underlying its use is that the submariner is characterized by the coincidence of aspects of his self-picture with his stereotype of a submariner. A second hypothesis, in line with the premises of the first, follows for the role of the items considered most important either in submariners or in himself: That is, aspects of either the self-picture or the stereotype which are deemed important represent more critical areas of adjustment than areas represented by the other items.

#### PURPOSE

The project director has long been interested in the possibility of measuring aspects of personality with paper-and-pencil testing techniques. The limitations and shortcomings of the more traditional kinds of inventories scarcely need enumeration here.

One of the most recurrent problems has been the conscious or unconscious slanting of responses in accordance with what the respondent believes to be the expected or desirable answers. Various procedures have been suggested and employed for correcting this effect. The second rather pervasive criticism has centered on the fundamental problem of the experimental validity of such tests.

A possible remedy for the former limitation and improvement of the latter shortcoming was suggested in the development of a testing instrument and situation in which the respondent would be asked to indicate, first, what he considers a desirable incumbent to be like or not like, and then keeping the items constant, to indicate what he considers himself to be like or not like. Using this procedure, it would seem reasonable to suppose that slanting effect, per se, would not be a significant factor because the concern is not with any a priori scoring or keying of the items. In other words, the crucial feature is not homogeneity of replies to keyed items. Instead, it is consistency of replies between what the respondent thinks an incumbent is like or not like and what he thinks he himself is like or is not like, whatever the view or picture of the incumbent is. Thus, it might be hypothesized that the higher the consistency score between self-picture and picture of the incumbent, the better the subsequent adjustment in that role.

Since the rationale and methodology involved in the construction and analysis of such an instrument are new, their application in the Submariner Stereotype is an exploratory venture. As yet, its use, reliability and validity have not been checked. This phase of the general investigation, therefore, was designed to evaluate the utility of the Submariner Stereotype as an instrument in the screening and assessment of enlisted candidates for submarine service. With empirical data to guide its use, the interviewers may scan it to determine areas of inquiry to pursue in the interview with a given candidate. With refinement and expansion, it might become a scorable test in its own right. In the service of the major objective, exploration of the appropriate kinds of analyses of such data, in line with the aforementioned rationale, might demonstrate potential utility of this approach in measurement practice generally.

## PROCEDURE

The Submariner Stereotype forms of 1125 candidates processed at the Naval Medical Research Laboratory, Submarine Base, New London, during the period September 1950 to September 1951 were used for the present study. To interpret the data on the submarine candidates, the Submariner Stereotype was also administered to two different Navy groups: (a) Four-hundred eighty non-selected enlisted men passing through the U. S. Naval Receiving Station, Brooklyn, New York, in December 1951; and (b) Five-hundred recruits at the U.S. Naval Training Center, Bainbridge, Maryland, in September-October 1951.<sup>1</sup> Analysis was made by contrasting prospective submariners' responses, item by item, administration by administration, with the responses of the recruits and the receiving station personnel.

The present scoring of the Stereotype for all groups involves simply the determination of an overall consistency score, i.e., the number of items among a total of 40 items on which the respondent was in agreement as to self-picture and submariner-picture.

Since each person responds to each item twice, once in a frame of reference for himself, and secondly in a frame of reference for submariners in general, there are nine possible combinations of responses to each item between the two forms. (Failure to respond is included as a type of response.) Accordingly, item analysis involved the assignment of a numeric code from one to nine to each combination of response on the two forms for each item, as follows:

Response	Submariners are	Submariners are not	No response
I am	1	2	3
I am not	4	5	6
No response	7	8	9

<sup>1</sup>The investigators wish to thank responsible personnel at USN Training Center, Bainbridge, Maryland, and at USN Receiving Station, Brooklyn, New York, for their kind cooperation in making these cases available for the study.

It is noted that the combinations 1, 5, and 9 on the diagonal represent combinations of response possibilities which are defined as "consistent" in the rationale of the instrument and its scoring.

To determine the reliability of the Submariner Stereotype, a group of 109 submarine candidates, who had been given the stereotype as part of the initial processing during the period March-April 1952, were retested on 29 May 1952 upon graduation from the U. S. Naval Submarine School. Analysis of reliability involved several problems:

- (1) General index of reliability of the "I am" form;
- (2) General index of reliability of the "Submariners are" form;
- (3) General index of reliability of the "consistency score", as a function of the reliabilities in (1) and (2) above;
- (4) Reliability of each item;
- (5) Reliability of each item cited as important.

To determine the validity of the questionnaire, in the most immediate sense, records of the 1125 submarine candidates were examined to identify those individuals in the group who had completed Submarine School successfully, and those who had been disqualified physically, temperamentally, and academically. The overall data were broken down and reanalyzed in terms of these four groupings.

## RESULTS

### A. Comparison of the Responses of Submarine Candidates with the Responses of the Receiving Station Personnel and the Recruits.

The three groups of naval personnel involved in the study of the Submariner Stereotype may be described by the summary of characteristics set forth in Table 1 below:

Table 1.- Modal Age, Pay Grade, and Educational Level of Submarine Candidates, Receiving Station Personnel and Recruits\*

Character- istics	Submarine Candidates	Receiving Station Personnel	Recruits
Age	20 or younger	21-25	20 or younger
Pay Grade	SA, FA, TA (Second)	SN, FN, TN (Third)	SR, FR, TR (First)
Educational level	12th grade	12th grade	12th grade

\*

Derived from information obtained from a parallel study, "The Interview: II. Aids to the Interview - The Confidential Questionnaire."

Summarized in Appendix B, Table 1, are the basic data indicating the percentage of respondents in each group who answered the items comprising the Submariner Stereotype in each of the nine possible ways. Examination of this table for comparison of the prospective submariners' responses item by item with the responses of receiving station personnel and recruits reveals both similarities and differences between the groups.

To facilitate the presentation of these similarities and differences, Table 2 below has been derived from the data in Appendix B, Table 1. It shows the items which were responded to in various ways by given percentages of respondents in each naval group.

Table 2. - Manner and percentage range of respondents on items of the Submarine Stereotype for Submarine School candidates, Receiving Station personnel and Recruits

Response Type	Percentage Range	Submarine Candidates	Receiving Station Personnel	Recruits
"I am"--- and "Submariners are"	90-100	Hard Workers Clean Generous Fond of liberty Reliable Alert Prompt Natural Good pals	Clean  Fond of liberty Reliable Alert	Hard workers Clean  Fond of liberty Reliable Alert  Good pals
	80-89	Bright Good mixers Proud Savvy	Hard workers Natural Proud Good pals	Prompt Natural
	70-79	Strong Brave Humorous Studious	Generous Prompt Proud	Generous Brave Humorous Good mixers
"I am not"--- and "Submariners are not"	90-100	Easily upset Overpaid		
	80-89	Grippers	Overpaid	Overpaid
	70-79	Reckless Dreamers		Easily upset Grippers
"I am"--- and "Submariners are not"	20-29	Shy Dreamers	Shy Dreamers Thrifty Modest Silent Regulation Easily upset	Shy  Thrifty Modest Silent
	50-59		Fighters	Fighters Tough
	40-49	Good mechanics Looked up to Tough Fighters Ladies' man	Good mechanics Looked up to Cocky	Good mechanics  Rough
	30-39	Good Teachers Rough	Good Teachers Rough Brave Gamblers	Good Teachers  Looked up to

Inspection of the data on the first response type, "I am-Submariners are", indicates that Submarine School candidates have more items on which they agree for submariners and for themselves than either of the other two naval groups. At the same time, however, it is noted that both the receiving station personnel and the recruit group make the first type of responses on some items which are common to those chosen by the Submarine School candidates--reliable, alert, clean, fond of liberty, etc. In other words, there does not seem to be sharp differences between the three naval groups with regard to the elements they consider as comprising the submariner stereotype and their self-picture.

When attention is directed to the items on which the percentage range of respondents is 90-100 per cent for the Submarine School candidates, it is observed that the choices may be judged to reflect two general characteristics, namely, qualities needed to be a good crew member and qualities needed to be a good shipmate. Reliable, alert, prompt, hard workers, seem to comprise the cluster for qualities of a good crew member, and clean, generous, natural, good pals, fond of liberty, appear to represent qualities of a good shipmate. These qualities also appear to be reflected in the responses of the other two groups in the same percentage range of respondents, but there are fewer items in the clusters. These qualities may, therefore, be regarded as applicable to enlisted men's roles throughout the Navy, rather than as ones peculiar to the submarine service.

As in the case of the response type, "I am-Submariners are", so in the case of the type, "I am not-Submariners are not", the submarine candidate group shows agreement on more items than does either of the other two naval groups. However, the smaller number of items in the second response category may be an artifact of the total array of items in the Submariner Stereotype itself, rather than a manifestation

of any psychological factor in the choices of response. The items so chosen seem to reflect undesirable personal characteristics--easily upset, grippers, reckless, etc., except for the single item, overpaid. With regard to the latter, it is interesting to note that none of the other groups considers submariners overpaid.

Now, in connection with the next two types of responses, "I am-Submariners are not", and "I am-Submariners are", it is noted first that both involve deviation rather than consistency between the self-picture and the submariner stereotype. It might be conjectured that in these areas of response, qualitative differences in response pattern might be found distinguishing the prospective submariner from the other two groups.

In the case of the response type, "I am-Submariners are not", it is observed that the highest percentage of respondents is only 30 per cent. A sizable proportion of Submarine School candidates (20-30 per cent) reflect a deviation of self-picture from submariner picture on the two items, shy and dreamers, both of which may be considered of a personality characteristic kind. Each of the other two naval groups shows this sizable proportion of agreement on a larger number of items--thrifty, modest, silent, in addition to shy. It is noted that most of these are also of the personality characteristic type.

Interpretation of the results on this response type seems to be clarified if made in conjunction with that on the other "deviant" type of response, "I am not-Submariners are". It is observed that the percentage of respondents extends to a higher range (59 per cent) for all three naval groups. In particular, there is substantial agreement throughout the three naval groups on the feeling that submariners are good mechanics, good teachers, looked up to, fighters, rough and tough, but that they themselves are not so described. One might speculate that these items reflect the stereotype of a submariner as a male hero-fig-



ure. This notion is strengthened when the items, shy and dreamers, are remembered from the previous paragraph as descriptive of some candidates themselves, but not of submariners in general. In other words, absence of shyness and dreaminess also characterizes the male hero-figure. Perhaps modesty is operating in these cases in the inability to admit heroic qualities in themselves. Cultural conditioning, then, may be a possible explanation.

Thus far, analysis and interpretation has been made in terms of modalities of response to various items. Still another facet of analysis maybe made, namely, in terms of sizable differences (defined arbitrarily as 15-30 per cent) between the submarine candidates and each of the other naval groups in percentages of respondents for each combination of response. Table 3 has been derived from Appendix B, Table 1 and summarizes the results in this way.

Examination of Table 3 reveals that the submarine candidate group shows larger percentages of respondents who indicated "I am-Submariners are" on the items, good teachers, studious and savvy, than do

Table 3.- Items on the Submariner Stereotype showing sizable percentage differences of respondents (15-30 per cent) between the Submarine Candidates (SC) and Receiving Station personnel (RS) and Recruits (R).

Response Type	Larger Percentage in SC group		Smaller Percentage in SC group	
	SC vs RS	SC vs R	SC vs RS	SC vs R
I am-Submariners are	Strong Bright Brave Good teachers Good mixers Fighters Studious Silent Regulation Tough Humorous Modest Prompt Savvy Good looking	Good teachers     Studious       Savvy	Drinking men Spenders	
I am not-Submariners are not	Drinking men Dreamers Gamblers Gripers Easily upset	Easily upset	Good teachers Men's men Tough Good looking	
I am-Submariners are not			Modest Silent Easily upset	Regulation
I am not-Submariners are		Brave Cocky		

both other naval groups. The candidate group is distinguished from the receiving station group on twelve additional items as listed in Table 3. In general, these additional items are all of the personal and social characteristics type. The submarine candidate group is differentiated from the receiving station group on two additional items within this response type, namely, drinking men and spenders. Significantly, fewer submarine candidates think of these two items as characterizing themselves and submariners.

With regard to the response type, "I am not-Submariners are not", only one item, easily upset, differentiates submariners from both groups. As in the case of the first response type, so here, there are several additional items, which distinguish submarine candidates from receiving station men, namely, drinking men, dreamers, gamblers, grippers, good teachers, men's men, tough and good looking. On the first four items, submarine candidates show greater percentages, and on the latter four, smaller percentages. Seemingly, the trend is in line with that of the foregoing discussion, namely, more submarine candidates indicate that undesirable personality characteristics are not applicable to submariners and themselves. Conversely, fewer of the submarine candidate group, than of the receiving station group, indicate seemingly desirable characteristics are not applicable to submariners and themselves.

With regard to the response type, "I am-Submariners are not", the candidate group is not differentiated on any of the items from the recruit group. On only three items, modest, silent and easily upset, is the submarine candidate group differentiated from the receiving station group. The prospective submariners show smaller percentages of response in each instance. Only the item easily upset seems to have inherent significance; fewer submarine candidates think of themselves as easily upset compared with the receiving station group. In view of the presumed stressful demands of the submarine service, it is interesting to note that

the candidates' self-picture coincides with this critical requirement.

Finally, with respect to the response type, "I am not-Submariners are", there is differentiation between the submarine candidate group and the receiving station group on only two items, brave and cocky, and between the prospective submariners and the recruits on only one item, regulation. In each instance, the percentage of the submarine candidate group is smaller than the others. One might speculate that in each instance this is a manifestation of less submissiveness on the part of prospective submariners.

Now it will be recalled that the respondents were asked to encircle the five items they considered most important in submariners and in themselves. Appendix B, Tables 2 and 3, respectively, summarize these data for each of the three naval groups. To facilitate the discussion, those items have been excerpted from these tables which were encircled most often and least often as most important in self-picture and in submariners, and are presented in Table 4.

Table 4. - Items judged most important most often and least often in both submariners and self-picture by the Submarine Candidates (SC), Receiving Station personnel (RS), and Recruits (R).

Form	Degree of Frequency	SC	%	RS	%	R	%
Submariners	Most often	Reliable	74	Reliable	47	Reliable	44
		Alert	63	Alert	51	Alert	57
		Clean	42	Clean	45	Clean	37
		Hard workers	40	Hard workers	36	Hard workers	39
		Good pals	34	Good mechanics	34	Good mechanics	32
	Least often	Spenders	1	Spenders	2	Spenders	1
		Dreamers	1	Dreamers	1	Dreamers	1
		Gamblers	1	Gripers	2	Gripers	1
		Shy	0	Shy	1	Generous	1
		Good looking	0	Good looking	1	Good looking	1
				Ladies men	1		
	Most often	Reliable	74	Reliable	64	Reliable	63
		Clean	66	Clean	64	Clean	70
		Hard workers	53	Hard workers	58	Hard workers	66
		Alert	48	Alert	32	Alert	41
		Prompt	32	Prompt	26	Prompt	26
Selves	Least often	Dreamers	1	Reckless	1	Reckless	1
		Rough	1	Cocky	1	Rough	1
		Good looking	1	Good looking	0	Gripers	1
		Shy	0	Rough	0	Shy	0
		Tough	0	Tough	0	Tough	0
	Most often						

It is observed from Table 4 that in the case of items judged most important in submariners most often, the submarine candidate group shows greater agreement, as one might expect, than the other two naval groups, but on virtually identical items--reliable, alert, clean and hard workers. These items, it is remembered, are among those on which submariners show greatest consistency of response between self-picture and submariner stereotype, and which were classified as descriptive of a good crew member and a good shipmate.

Further, absolutely identical items are chosen by members of the three naval groups as important in themselves--reliable, clean, hard workers, alert and prompt, and there is little, if any, difference in their degree of agreement on these. It would seem, therefore, that the elements deemed of importance by all three groups in both submariners and in themselves overlap to a great extent,--reliable, alert, clean and hard workers. Of the items listed on the present form, these particular items, therefore, may be considered most important in the description of enlisted men's roles in the Navy generally. In addition, however, there is a tendency as exemplified by the 34 per cent of submarine candidates who did so, for prospective submariners to emphasize social factors of the good shipmate in submariners more than does either of the other two naval groups.

The other two groups emphasize good mechanics, as exemplified by their 34 per cent frequency, while the submarine candidates do so to the extent of 25 per cent. This tendency is further strengthened by the observation from Appendix B, Table 2, that submarine candidates emphasize next most frequently, good mixers, to the extent of 28 per cent. Consequently, the only differentiating ingredient between the submariner candidates and the other naval groups with regard to the items encircled most important may be this somewhat greater weighting of social factors.

In contrast, with regard to the items judged most important least frequently, there is less similarity in choice among the three groups for both submariner and self-pictures. However, in this instance, the percentages of respondents are so small that the results may be considered more a function of sampling fluctuation than indicative of psychological differences between the three naval groups. On the basis of the data available, the items least often considered important in submariners--spenders, dreamers and good-looking, would appear to be personal characteristics irrelevant to the major important qualities, and some of them, seemingly undesirable as well. Rough, tough and shy, appear to receive the least emphasis by members of the three naval groups for themselves, and are also of the personality characteristic type.

It was hypothesized that the items judged important either in the self-picture or submariner stereotype, would sample more critical areas of adjustment for each respondent than the other items. Consequently, it would seem pertinent to determine the degree of consistency between submariner stereotype and self-picture on such items. To this end, Table 5 has been derived from the data in Appendix B, Tables 2 and 3.

Table 5.- Number of items in grouped percentages of cases showing consistent type responses on the items judged important in submariner picture and self-picture in each of the three naval groups.

Per cent of Cases with Consistent Type Responses	Submariner Picture			Self-Picture		
	SC	RS	R	SC	RS	R
90-100	19	10	14	21	14	11
80-90	8	5	6	5	5	11
70-80	4	6	5	5	6	5
60-70	5	10	4	1	6	3
50-60	3	4	4	5	3	8
40-50	1	1	2	2	2	0
30-40	--	2	4	--	0	0
20-30	--	--	1	--	1	1
10-20	--	2	--	--	2	1
0-10	--	--	--	1	1	--

The most striking observation from the data in Table 5 is that the submarine candidates show far greater consistency on the items which they had indicated as most important in both the submariner and self-pictures. Also, it is noted that all three groups show greater consistency of response between self-picture and submariner picture on most items than chance alone would yield.

Still another aspect of the items deemed most important is that of the frequency with which the identical items are chosen in both submariner and self-picture. This tabulation has been made for the submarine candidate group alone and is set forth in Appendix B, Table 4. Excerpted from this table below are the items which 25 per cent or more of the submarine candidate group indicated most important in both submariners and self-picture, together with the data for each singly from Table 4.

<u>Item</u>	<u>Submariners</u>	<u>Selves</u>	<u>Both</u>
Reliable	74	74	64
Alert	63	48	39
Clean	42	66	37
Hard workers	40	53	29

Apparently, there is a substantial degree of intra-individual overlap in the items judged important in both forms--from about 60 to 90 per cent of those who consider these items important do so on both forms.

As yet, however, the data do not permit the acceptance or rejection of the hypothesis concerning the role of the items considered most important. It does seem evident, nevertheless, that submarine candidates see themselves more like the characteristics they view as important in submariners; reciprocally, the characteristics they view as important in themselves are viewed as present in submariners.

A final facet for the comparative analysis of the three naval

groups is that in terms of overall consistency scores, i.e., the number of items on which the respondent gives identical answers on the two administrations of the test. In Table 6 are presented the means and standard deviations of the consistency scores and the critical ratios between the mean of the submarine candidate group and the mean of each of the other two naval groups.

Table 6.- Means and standard deviations of overall consistency scores on the Submariner Stereotype and the critical ratios between the mean of the submarine candidates and other naval groups.

Naval Groups	Means	S.D.	Critical Ratios
Submarine Candidates (SC)	31.32	4.48	
Receiving Station Personnel (RS)	27.91	4.91 (SC) and (RS)	4.81*
Recruits (R)	28.05	4.98 (SC) and (R)	4.64*

\*Significant at the .01 level

It is noted that the submarine candidate group had a higher mean consistency score. This was found to be significantly greater statistically than the means of each of the other groups. The standard deviations, however, are all virtually the same.

It would seem, therefore, that in terms of differentiating these three naval groups, the consistency score has potential use in the screening and selection of submariners. Further, it may be inferred that it provides an adequate index with which to test the basic hypothesis for submariners alone.

#### B. Reliability of the Submariner Stereotype

To determine the consistency of performance on the Submariner Stereotype, responses to 109 test-retest forms were compared. Analysis of reliability was made in terms of the reliability of each form, of each

item on each form, of items considered most important and finally, of consistency scores.

Before discussion of these indices of reliability, however, it would be well to point out a general difference which is inherent in the reliability design employed. The particular design used, of administrative necessity, is, over and above the more usual test-retest situation, one of pre- and post-Submarine School. In other words, the more conventional interpretation of reliability in terms of test-retest design is actually mingled with the possibility of changes as a result of learning in Submarine School rather than simple change from administration to administration. However, to avoid undue complication of the discussion under the exploratory purposes of the study, the nature of the interpretation of reliability will follow along the lines of the usual frame of reference. To evaluate the influence of this factor on the reliability would require more data than those available.

On the "I am" form and the "Submariners are" form, the mean number of item responses which remained constant was 34 items in both cases. In other words, a general index of 85 per cent consistency of performance is reflected for each form of the Submariner Stereotype.

Now, to analyze reliability in terms of the individual items, Table 7 below has been derived from the basic item reliability data as set forth in Appendix C, Table 1.

Table 7.- Number of items and cumulative percentages of total items for given numbers of changes in response on each form of the Submariner Stereotype by 109 submarine candidates

Form	Number of changes (maximum 109)	Numbers of items (maximum 40)	Cumulative Percentage of Total Items
Submariner	0 - 15	22	55
	16 - 30	11	82
	31 - 45	7	100
Self	0 - 15	16	40
	16 - 30	20	90
	31 - 45	4	100



With regard to the submariner form, it would appear that 82 per cent of the items show relative stability (30 or fewer changes out of a possible 109 changes) in response from one administration to the next. On the other hand, 90 per cent of the items show comparable stability on the self-picture form. It is noted from Appendix C, Table 1 that the range of changes for the self-picture form is less (0-36) than the range of changes on the submariner picture (0-41). Actually the mean number of changes per item for the "Submariners are" form is 17, and for the "I am" form, it is 18.

Now, in order to show the relative stability of individual items, Table 8 summarizes the item reliability data from Appendix C, Table 1, and lists the items of the Submariner Stereotype in order of decreasing reliability.

Table 8.- Total number of changes per item on the Submariner Stereotype and the percentages of the total changes which were in self-picture, submariner picture and both by 109 submarine candidates

	Total Number of Changes	% of Total Changes which are Changes in Self-Picture	% of Total Changes which are Changes in Submariner Picture	% of Total Changes which are Changes in both Self and Submariner Picture
Reliable	2	100	0	0
Good pal(s)	4	50	25	25
Alert	5	60	20	20
Prompt	8	50	25	25
Hard worker(s)	11	36	55	9
Overpaid	11	36	36	27
Natural	12	33	67	0
Generous	13	31	54	15
Good mixer(s)	15	30	15	7
Easily upset	17	59	24	18
Fond of liberty	17	47	29	24
Clean	18	0	94	6
Griper(s)	18	44	17	39
Humorous	23	61	26	13
Good mechanic(s)	24	71	29	0
Bright	25	72	16	12
Proud	27	52	26	22
Studious	30	60	17	23
Gambler(s)	31	15	61	26
Reckless	31	32	42	26
Shy	32	56	28	16
Savvy	32	66	9	25
Good teacher(s)	33	32	9	9
Cocky	34	18	59	24
Brave	37	65	14	22
Modest	37	35	35	30
Looked up to	38	74	13	13
Rough	39	21	64	15
Strong	40	55	30	15
Regulation	41	15	54	32
Tough	41	34	56	10
Dreamer(s)	44	48	34	18
Ladies men	44	32	55	14
Drinking men	45	20	59	22
Thrifty	46	48	33	20
Silent	50	40	48	12
Fighter(s)	51	29	63	8
Good looking	52	27	58	15
Spender(s)	57	28	47	25
Men's men	58	35	38	29
Means	30	42	40	18

Inspection of Table 8 reveals that the mean of the total number of changes per item is 30 changes. Of these, on the average 42 per cent were changes in self-concept, 40 per cent were changes in submariner concept, and 18 per cent reflected changes in both concepts.

On the basis of these data, it is clear that certain items on the Submariner Stereotype are more reliable than others. If an arbitrary cut-off point is set at 31 changes or more on one or both forms, ten items might be eliminated from the present experimental form. These would be: men's men, brave, thrifty, looked up to, fighters, spenders, regulation, drinking men, rough, and good looking. Before these items are definitely excluded from the present form, however, it would be well for those competent to judge to examine these items for the predominant type of change, as has been shown with the data in Appendix C, Table 1. From this table, it is observed that on these items, these are the predominant types of changes that occurred:

#### Submariner Picture

<u>S's are--S'ers are not</u>	<u>S'ers are not--S'ers are</u>	<u>Both</u>
Fighters	Spenders	Men's Men
Regulation	Rough	
Good looking	Drinking men	

#### Self-Picture

<u>I am--I am-not</u>	<u>I am not--I am</u>	<u>Both</u>
Brave	Thrifty	
Looked up to		

Clearly, most of the changes were changes in the submariner picture rather than the self-picture. Two of these, fighters and regulation, might be thought of as a direct result of training and the remainder, the result of direct observation of fellow submarine candidates. On the other hand, the changes with regard to self-picture and the almost equal number of both types of changes in the submariner stereotype with regard

to the item men's men, are suggestive of actual unreliability due to lack of precise understanding of what the terms mean. For example, men's men notably presented difficulties observable during the administration of these forms.

Another aspect of the item reliabilities is that of the stability of choices on the items considered most important. Table 9 has been derived from the data in Appendix C, Table 2, showing the reliabilities of the five items circled most important.

Table 9.- Relative stability of items circled most important on self-picture and submariner picture by 109 submarine candidates.

Submariner	Reliable	% of Total Group encircling important first administration		Cases of F Consistent in importance rating on second administration	
		F	%	f	%
Submariner	Reliable	84	77	59	70
	Alert	70	64	42	60
	Hard workers	46	42	28	61
	Clean	44	40	19	43
	Good pals	38	35	20	53
Self	Reliable	76	70	61	80
	Clean	70	64	46	66
	Hard worker	65	60	45	69
	Alert	43	39	30	70
	Prompt	28	26	14	50

From Table 9 it is observed first that the five items deemed most important in submariners and themselves by the 109 cases of the reliability study result in the identical ones so chosen in both instances by the 1125 submarine candidates. Secondly, the degree of stability of these choices ranges from 43-70 per cent for the submariner stereotype and from 50-80 per cent for the self-picture. In general, then, the choices of items thought most important in self-picture are more stable than those in submariners.

A final aspect of the reliability problem on the Submariner Stereo-

type is that of the various consistency scores between the two administrations. These consistency scores are enumerated and defined in each instance as follows:

(a)  $I\ am_1$  and  $I\ am_2$  - the number of items on which an individual is consistent in response from one administration of the "I am" form to the second;

(b)  $Submariners\ are_1$  and  $Submariners\ are_2$  - the number of items on which an individual is consistent in response from one administration of the "Submariners are" form to the second;

(c)  $I\ am_1$  and  $Submariners\ are_1$  - the number of items on which an individual's self-concept coincides with his submariner stereotype on the first administration;

(d)  $I\ am_2$  and  $Submariners\ are_2$  - the number of items on which an individual's self-concept coincides with his submariner stereotype on the second administration.

It is noted that the first and second enumerated entries are consistency scores involving the same items in the same frame of reference between two administrations and henceforth will be called "Reliability Scores." The third and fourth entries, on the other hand, are consistency scores reflecting the relationship between submariner and self-picture, (different frames of reference), as defined earlier in the section on Procedure. Thus only the correlation between the latter measures, consistency scores between two administrations, is a test-retest reliability coefficient in the usual sense of inter-correlation between overall scores on two administrations of the same test. However, in this particular situation, this would even be more a manifestation of the relative stability of the consistency between the submariner stereotype and the self-picture, rather than reliability of the instrument per se.

In Table 10 are presented the correlations among the various derived reliability scores and consistency scores for each of the 109 cases.

Table 10.- Intercorrelations among Reliability Scores and Consistency Scores between two administrations of the Submariner Stereotype for 109 cases

Type of Score	Notation	I I 1 2	S S 1 2	I S 1 1	I S 2 2
(a) I am -- I am 1 2	(I I) 1 2	---	.44	.21	.19
(b) Submariners are- 1 Submariners are 2	(S S) 1 2	.44	--	.35	.25
(c) I am <sub>1</sub> - Submariners are <sub>1</sub>	(I S) 1 1	.21	.35	--	.51
(d) I am <sub>2</sub> - Submariners are 2	(I S) 2 2	.19	.25	.51	--

From Table 10 the correlation between the consistency scores of 109 cases on two administrations of the Submariner Stereotype is seen to be .51. Thus, while there is a substantial degree of consistency between the Submariner Stereotype and the self-picture as shown for administrations with a seven weeks' interval, a sizable fluctuation is reflected also. Examination of the other intercorrelations in Table 10 yields clues as to the primary source of the fluctuations. The degree of the stability shown between self-picture and submariner picture by the correlation .51 is seen to be associated with fewer changes in submariner concept (by the correlation .25) than in self-concept (by the correlation .19). This trend is also borne out using the correlation between the consistency scores of the first administration ( $I_1 S_1$ ) and the two reliability scores, .35 for the submariner concept and .21 for the self-concept. It would appear, therefore, perhaps contrary to expectation,

that the submariner stereotype is more stable than the self-concept. Finally, it is observed that stability on each of the two types of reliability scores is related to the other to the extent of .44. This may be interpreted as a reflection of the consistency of behavior elicited by the items with varying frames of reference, self-picture and submariner stereotype. In this sense, it may provide a lower bound for the relatively high degree of consistency shown to exist when the frame of reference remains constant--85 per cent .

### C. Validity of the Submariner Stereotype

In addition to the effectiveness of the Submariner Stereotype in describing Submarine School candidates differentially from men of other naval groups, is the problem of the degree to which it elicits differential patterns of response among successful and unsuccessful submarine candidates. Toward this validation objective, in the most immediate sense, the data on the Submariner Stereotype for the total group of submarine candidates who successfully graduated from Submarine School were contrasted with those of 131 identified unsuccessful cases. The data on the unsuccessful cases were broken down separately for three major classifications:

Group I. Academic disqualifications - 32 cases who could not pass course work or did not apply themselves.

Group II. Temperamental disqualifications - 57 cases who were described as temperamentally or psychologically unsuited or unadapted for submarine duty, or no longer a volunteer.

Group III. Physical disqualifications - 42 cases who could not pass physical standards of visual acuity and auditory acuity.

It is noted that the number of cases in each rejected group is very small. Therefore, the discussion and interpretation of the results must be made with great caution. In the last analysis, the results may be merely suggestive of possible differences.

The complete distributions of responses to items on the Submariner Stereotype for each of the three rejected groups and the total group is included as part of Appendix D, Table 1. To facilitate the comparison of these data, Table 11 has been derived from the basic data there.

Table 11. - Manner and percentage range of respondents on items of the Submariner Stereotype for successful submarine school candidate (SSC) group, the academically disqualified (AD), the temperamentally disqualified (TD), and the physically disqualified (PD) groups

Response Type	Percentage Range	SSC (N=994)	AD (N=52)	TD (N=57)	PD (N=42)
I am-- Submariners are	9-100	Hard workers	Hard workers	Hard workers	Hard workers
		Clean	Clean	Clean	Clean
		Generous	Generous		
		Fond of liberty	Fond of liberty	Fond of liberty	Fond of liberty
		Reliable	Reliable	Reliable	Reliable
		Alert	Alert	Alert	Alert
		Prompt	Prompt	Prompt	Prompt
		Natural	Natural	Natural	Natural
		Good pals	Good pals	Good pals	Good pals
					Proud
	80-89	Bright	Bright		
		Good mixers	Good mixers	Good mixers	Good mixers
		Proud	Proud	Proud	
		Savvy	Savvy		Savvy
			Humorous	Generous	Generous
	70-79	Strong	Strong	Strong	Strong
		Brave	Brave		
		Humorous		Humorous	Humorous
		Studious	Studious	Studious	Studious
			Modest	Savvy	Bright
I am not-- Submariners are not	90-100	Easily upset		Easily upset	Easily upset
		Overpaid	Overpaid	Overpaid	Overpaid
					Grippers
	80-89		Grippers		
			Easily upset		
			Reckless		
	70-79	Reckless	Shy	Reckless	Reckless
		Dreamers	Dreamers		
				Grippers	
	30-39			Shy	
I am-- Submariners are not	20-29	Shy			Shy
		Dreamers		Dreamers	Dreamers
I am not-- Submariners are	50-59		Rough	Good mechanics	Ladies men
			Good mechanics		Cocky
			Tough		Tough
					Looked up to
	40-49	Good mechanics			
		Looked up to			
		Tough		Tough	
		Fighters			
		Ladies man			
	30-39	Good teachers	Good teachers	Good teachers	Good teachers
		Rough		Rough	Rough
				Ladies men	
				Brave	
			Fighters	Fighters	Fighters
				Cocky	
					Good looking
			Looked up to	Looked up to	Looked up to

Inspection of the contents of Table 11 reveals relatively few differences in the response pattern of each of the three groups and the total successful submarine candidate group. Where there appear to be differences, the basic data in Appendix B, Table 1, were re-examined for determination of precise differences. Items for which there are sizable differences (arbitrarily defined as 15-30%) in the number of respondents between the successful submarine candidate group and each of the three disqualified groups are set forth below in Table 12.

Table 12.- Submariner Stereotype items showing sizable percentage differences of respondents (15-30 per cent) between the successful submarine candidate (SSC) group and each of the three disqualified groups: academically disqualified (AD), temperamentally disqualified (TD), and physically disqualified (PD).

Response Type	Larger Percentage in Successful Group			Smaller Percentage in Successful Group		
	SSC vs AD	SSC vs TD	SSC vs PD	SSC vs AD	SSC vs TD	SSC vs PD
I am-- Submariners are		Bright		Fighters Modest		Fighters Spenders
I am not-- Submariners are not	Rough		Cocky			
I am not-- Submariners are	Spenders			Rough		Cocky

It is noted from Table 12 that the unsuccessful groups are differentiated from the successful group by relatively few items. It might have been expected that of the three disqualified groups, the temperamentally disqualified group would have been most different in response pattern. Such is not the case, however. In fact, the physically disqualified and the academically disqualified would appear to have a common set of items which distinguish them from the successful group, namely, fighters, tough, cocky. However, the investigators can not make any ready interpretation of these differences.



It remains to see whether any differentiation of disqualified groups can be established on the basis of the items considered most important. To this end, Table 13 has been derived from the data in Appendix B, Tables 2 and 3.

Table 13.- Five items judged most important most often in both submariners and self-picture by the successful submarine candidate group (SSC) and each of the three disqualified groups.

Form	SSC (N=994)	%	AD (N=32)	%	TD (N=57)	%	PD (N=42)	%
Submariners	Reliable	74	Reliable	63	Reliable	66	Reliable	71
	Alert	62	Alert	72	Alert	68	Alert	60
	Clean	41	Clean	56	Clean	37	Clean	45
	Hard workers	39	Hard workers	53	Hard workers	37	Good pals	36
	Good pals	34	Good pals	31				
					Good mechanics	34	Prompt	43
Self	Reliable	72	Reliable	84	Reliable	72	Reliable	71
	Clean	65	Clean	78	Clean	60	Clean	64
	Hard worker	59	Hard worker	53	Hard worker	62	Hard worker	60
	Alert	47	Alert	69	Alert	39	Alert	48
	Prompt	32			Prompt	26	Prompt	48
			Proud	28				
					Good mixer	26		

Comparison of the arrays in Table 13 shows that, for the most part, the disqualified groups consider the same items as important in both submariners and themselves. When the apparent differences are further examined in the data of Appendix D, Table 2, it is found that they do not at all constitute sizable percentage differences.

Finally, the overall consistency scores as potentially differentiating the unsuccessful cases from the successful ones, must be examined. The data in Table 14 below summarize the mean and standard deviation of the successful submarine candidate group and those of each of the disqualified groups. Inspection of the data in Table 14 reveals no signifi-

Table 14. - Summary of means and standard deviations of consistency scores on successful candidate group and the unsuccessful groups

Groups	Mean	N	S.D.
Submarine candidates	31.39	994	4.44
Academically disqualified	30.77	32	4.85
Temperamentally disqualified	30.56	57	4.61
Physically disqualified	31.78	42	4.33

cant differences between the groups since a difference between the means as large as approximately 1.40 to 1.80 or more is required for statistical significance at the .05 and .01 level, respectively.

It is evident, therefore, that all the crucial comparisons of the analysis of the data thus far have not yielded any differentiating indices of the Submariner Stereotype between the successful and the unsuccessful groups. However, it would be well to point out that the utility of the approach is not refuted; merely, the attempt to apply it with these particular items has not been found fruitful, using the criterion of graduation from Submarine School. Actually, the items are not tapping so much the intellectual and motivational factors related to success in academic work, as they are, perhaps, tapping factors related to interpersonal behavior of the on-board variety.

## SUMMARY EVALUATION

An exploratory study was made to investigate the application of a measurement technique designed to aid in the differentiation of candidates for Submarine School from other naval enlisted personnel, and also, in the differentiation of successful submarine candidates from unsuccessful ones.

More specifically, the technique involves the double administration of a set of descriptive words or phrases; first, in the frame of reference of submariners, and secondly, in the frame of reference of the respondent's own self-picture. Also, in each administration, the choice of five items deemed most important is requested.

The present hypothesis underlying the approach is one which utilizes the coincidence of aspects of the respondent's own self-picture with those of the respondent's own submariner stereotype. A secondary hypothesis concerns the items chosen most important, namely, that items accorded major importance represent more critical areas of adjustment.

As to the question of the power of the present instrument to differentiate candidates for Submarine School from other naval enlisted personnel, it is found that:

- (1) Submarine School candidates select a larger number of items as descriptive of themselves and submariners than do receiving station personnel and recruits;
- (2) Qualities reflected in the response pattern of naval groups appear to be applicable to enlisted men's roles throughout the Navy rather than unique to the submarine service, namely, qualities of a good crew member and qualities of a good shipmate;
- (3) The submarine candidate group seems to be more sharply differentiable from the receiving station group than from the recruits on the basis of the number of items on which larger percentage differences in respondents occurred;
- (4) The naval enlisted personnel are not differentiable in terms of

what they consider most important in submariners and in themselves; all three groups accord importance to the items, reliable, alert, clean and hard workers, in submariners, and to reliable, clean, hard workers, alert and prompt, in themselves; however, there was a slight tendency for submarine candidates to emphasize social factors of the good shipmate, such as, good pals and good mixers, more than did either of the other naval groups; further, submarine candidates were in greater agreement on the items considered most important in submariners;

- (5) The submarine candidate group is differentiated from each of the other naval groups in the significantly greater coincidence of aspects of their self-picture with those of their submariner stereotype.

With regard to the differentiation of successful candidates from various types of unsuccessful cases, these findings obtain:

- (1) There are relatively few differences in the response patterns of disqualified groups and successful cases; moreover, these apparent differences are not readily interpretable;
- (2) The disqualified groups are not differentiable from the successful group on the basis of the items considered most important both in submariners and in themselves;
- (3) There is no greater coincidence of aspects of the self-picture with those of the submariner stereotype in the successful cases than in the unsuccessful cases.

In view of the foregoing summary of the findings, it is felt that further experimentation with this measurement method is warranted. On most phases of the analysis, the present instrument shows some power to differentiate submarine candidates from other naval enlisted personnel. Further, most of the items have acceptable reliability within the limitations of the particular design employed. The present instrument's inability to elicit differential patterns of response among successful submarine candidates using the criterion of graduation from Submarine School, however, raises questions of the adequacy of the present items and the adequacy of the criterion against which validation was attempted.

Its further use in the submarine service should include the construction of a larger number of items from billet analysis data, from underway evaluation of enlisted personnel, and from leads suggested by the continuing research program of the Personnel Psychology Branch of the Medical Research Laboratory. Additional groups should be used for the experimental work, such as successive classes attending the Submarine School and personnel on board submarines of the Fleet. Ultimately, a definitive answer regarding the worthwhileness of the method for the submarine service is contingent upon having adequate criteria against which to validate it, i.e., indices of adjustment.

**APPENDIX A**

**THE SUBMARINER STEREOTYPE**

Name \_\_\_\_\_ (last) \_\_\_\_\_ (first) \_\_\_\_\_ (middle) \_\_\_\_\_ Rate. \_\_\_\_\_

Service No. \_\_\_\_\_ Date: \_\_\_\_\_

**DIRECTIONS:** We would like to know what you think YOU ARE or ARE NOT. Below are listed descriptive adjectives and phrases. Indicate your answers in the appropriate column by using a LARGE "X". Your first impression is your best choice. THINK FAST --WORK RAPIDLY.

<u>I AM:</u>		<u>I AM NOT:</u>	<u>I AM NOT:</u>	
1. _____	Hard worker	_____	21. _____	Cocky
2. _____	Clean	_____	22. _____	Spender
3. _____	Strong	_____	23. _____	Regulation
4. _____	Ladies' Man	_____	24. _____	Drinking man
5. _____	Bright	_____	25. _____	Proud
6. _____	Generous	_____	26. _____	Dreamer
7. _____	Fond of liberty	_____	27. _____	Man's man
8. _____	Shy	_____	28. _____	Gambler
9. _____	Brave	_____	29. _____	Rough
10. _____	Thrifty	_____	30. _____	Reckless
11. _____	Good teacher	_____	31. _____	Savvy
12. _____	Reliable	_____	32. _____	Good mechanic
13. _____	Humorous	_____	33. _____	Natural
14. _____	Good mixer	_____	34. _____	Good pal
15. _____	Fighter	_____	35. _____	Griper
16. _____	Studious	_____	36. _____	Tough
17. _____	Alert	_____	37. _____	Good looking
18. _____	Modest	_____	38. _____	Over paid
19. _____	Prompt	_____	39. _____	Easily upset
20. _____	Silent	_____	40. _____	Looked up to

Go back over your choices, and CIRCLE THE NUMBERS  
OF FIVE ITEMS that to you seem MOST IMPORTANT

Name \_\_\_\_\_ Rate: \_\_\_\_\_  
                     (last)                      (first)                      (middle)

Service No. \_\_\_\_\_ Date: \_\_\_\_\_

**DIRECTIONS:** We would like to know what you think a submariner is or is not. You may never have been on a submarine and never have known anyone who was; still, you must have some ideas about the kind of men who are serving on them. Indicate your answers in the appropriate column by using a LARGE "X". Your first impression is your best choice. THINK FAST--WORK RAPIDLY

Submariners <u>ARE:</u>	Submariners <u>ARE NOT:</u>	Submariners <u>ARE:</u>	Submariners <u>ARE NOT:</u>
1. _____ Looked up to	_____	21. Silent	_____
2. _____ Easily upset	_____	22. Prompt	_____
3. _____ Over paid	_____	23. Modest	_____
4. _____ Good looking	_____	24. Alert	_____
5. _____ Tough	_____	25. Studious	_____
6. _____ Gripers	_____	26. Fighters	_____
7. _____ Good pals	_____	27. Good mixers	_____
8. _____ Natural	_____	28. Humorous	_____
9. _____ Good mechanics	_____	29. Reliable	_____
10. _____ Savvy	_____	30. Good teachers	_____
11. _____ Reckless	_____	31. Thrifty	_____
12. _____ Rough	_____	32. Brave	_____
13. _____ Gamblers	_____	33. Shy	_____
14. _____ Men's men	_____	34. Fond of liberty	_____
15. _____ Dreamers	_____	35. Generous	_____
16. _____ Proud	_____	36. Bright	_____
17. _____ Drinking men	_____	37. Ladies' men	_____
18. _____ Regulation	_____	38. Strong	_____
19. _____ Spenders	_____	39. Clean	_____
20. _____ Cocky	_____	40. Hard workers	_____

Go back over your choices, and CIRCLE THE NUMBERS OF FIVE  
ITEMS that to you seem MOST IMPORTANT.



## APPENDIX B

TABLE 1. THE DISTRIBUTIONS OF THE FOLLOWING THREE GROUPS OF ENLISTED NAVAL PERSONNEL FOR EACH MANNER OF RESPONSE TO THE ITEMS OF THE SUBMARINER STEREOTYPE:

- (1) SUBMARINER CANDIDATES (SC).....N-1125
- (2) RECEIVING STATION PERSONNEL(RS) .....N- 480
- (3) RECRUITS (R) .....N- 500

TABLE 2. FREQUENCIES AND PERCENTAGES OF RESPONDENTS WHO CONSIDERED ITEMS OF THE SUBMARINER STEREOTYPE AS MOST IMPORTANT IN SUBMARINERS IN THE SUBMARINE CANDIDATE, RECEIVING STATION AND RECRUIT GROUPS, AND THE FREQUENCIES AND PERCENTAGES OF THE RESPONDENTS IN EACH GROUP WHO SHOWED CONSISTENT TYPE RESPONSES

TABLE 3. FREQUENCIES AND PERCENTAGES OF RESPONDENTS WHO CONSIDERED ITEMS OF THE SUBMARINER STEREOTYPE AS MOST IMPORTANT IN THEMSELVES IN THE SUBMARINE CANDIDATE, RECEIVING STATION AND RECRUIT GROUPS, AND THE FREQUENCIES AND PERCENTAGES OF THE RESPONDENTS IN EACH GROUP WHO SHOWED CONSISTENT TYPE RESPONSES

TABLE 4. FREQUENCIES AND PERCENTAGES OF SUBMARINE SCHOOL CANDIDATES WHO CONSIDERED ITEMS OF THE SUBMARINER STEREOTYPE AS IMPORTANT IN BOTH SUBMARINERS AND THEMSELVES

# APPENDIX B

**Table 1—The Distribution of Three Groups of Enlisted Naval Personnel for each Manner of Response to the Items of the Submariner Stereotype.**

Items		I am — S'ers are	I am — S'ers are not	I am — No resp.	I am not — S'ers are	I am not — S'ers are not	I am not — No resp.	No resp. — S'ers are	No resp. — S'ers are not	No resp. — No resp.
Hard workers	(SC)	95	01	—	03	00	—	00	—	—
	(RS)	82	04	—	09	05	—	—	00	—
	(R)	91	03	01	04	01	—	01	—	—
Clean	(SC)	95	05	00	00	—	—	—	—	00
	(RS)	92	07	—	00	00	—	—	—	—
	(R)	96	03	00	00	00	—	00	—	—
Strong	(SC)	77	05	00	14	03	00	00	—	00
	(RS)	54	07	00	24	14	—	00	00	00
	(R)	69	07	02	18	03	—	00	—	00
Ladies' men	(SC)	32	03	—	42	22	00	00	00	00
	(RS)	20	03	—	42	33	00	00	00	00
	(R)	39	13	01	29	16	01	01	00	—
Bright	(SC)	81	01	01	16	02	00	00	—	00
	(RS)	61	05	—	25	08	—	01	00	00
	(R)	69	08	01	19	03	—	00	—	—
Generous	(SC)	90	03	01	05	01	—	—	00	00
	(RS)	77	10	—	08	05	—	—	00	00
	(R)	77	13	02	05	02	—	01	—	—
Fond of liberty	(SC)	93	02	00	04	01	—	—	—	00
	(RS)	90	03	—	05	02	—	00	—	00
	(R)	93	04	00	02	01	—	01	—	—
Shy	(SC)	04	24	00	03	69	00	—	—	—
	(RS)	06	30	00	04	59	00	—	—	00
	(R)	04	20	01	05	67	01	00	00	00
Brave	(SC)	73	01	00	24	02	—	00	—	00
	(RS)	46	01	00	39	11	—	00	00	00
	(R)	70	01	00	16	01	00	00	00	—
Thrifty	(SC)	46	17	01	16	19	00	00	00	00
	(RS)	35	23	00	13	28	00	00	—	00
	(R)	48	24	02	10	14	01	00	—	—
Good teachers	(SC)	60	02	00	34	02	00	00	—	00
	(RS)	39	10	—	30	20	00	—	00	—
	(R)	43	14	01	03	09	01	01	—	00
Reliable	(SC)	99	00	00	01	00	—	—	00	00
	(RS)	93	04	—	02	01	—	00	—	00
	(R)	96	01	00	02	00	—	00	—	00
Humorous	(SC)	74	03	00	18	04	00	01	00	00
	(RS)	56	08	—	21	14	00	00	00	00
	(R)	70	09	01	15	04	00	00	—	—
Good mixers	(SC)	88	01	00	09	01	00	00	00	00
	(RS)	69	08	—	15	07	—	01	—	00
	(R)	79	10	01	08	01	—	01	—	00
Fighters	(SC)	44	01	00	43	10	00	00	00	00
	(RS)	19	02	00	56	22	—	00	—	00
	(R)	37	04	01	52	06	—	01	00	—

SC—Submarine Candidates  
RS—Receiving Station Personnel  
R—Recruits

**APPENDIX B—TABLE 1 (Continued)**

Items		I am — S'ers are	I am — S'ers are not	I am — No resp.	I am not — S'ers are	I am not — S'ers are not	I am not — No resp.	No resp. — S'ers are	No resp. — S'ers are not	No resp. — No resp.
Studious	(SC)	76	03	00	16	03	00	00	—	00
	(RS)	46	10	00	25	18	—	01	—	00
	( R)	53	12	01	26	07	01	01	—	—
Alert	(SC)	99	00	00	01	—	01	01	—	—
	(RS)	92	01	—	05	01	—	01	—	00
	( R)	94	02	00	03	01	—	00	—	00
Modest	(SC)	56	15	01	11	16	00	00	00	00
	(RS)	39	30	00	09	21	—	00	00	00
	( R)	46	26	01	10	14	01	00	00	00
Prompt	(SC)	95	02	00	03	01	—	—	—	—
	(RS)	77	11	—	09	02	—	—	00	00
	( R)	88	05	00	06	01	—	00	—	—
Silent	(SC)	45	15	01	14	24	00	00	00	00
	(RS)	26	33	—	13	27	—	00	00	00
	( R)	33	24	01	18	23	01	00	00	00
Cocky	(SC)	09	02	—	29	59	00	—	—	—
	(RS)	08	01	—	47	44	—	—	—	00
	( R)	07	02	01	34	54	01	00	00	—
Spenders	(SC)	32	16	00	21	30	00	00	00	00
	(RS)	50	07	—	26	16	—	00	02	—
	( R)	23	18	01	22	35	01	00	00	00
Regulation	(SC)	59	19	00	05	17	00	00	00	00
	(RS)	40	21	—	13	25	00	01	00	00
	( R)	57	08	02	24	08	01	01	—	—
Drinking men	(SC)	11	09	—	16	63	00	—	—	00
	(RS)	37	08	—	22	32	00	—	—	00
	( R)	09	11	00	24	53	02	00	01	—
Proud	(SC)	89	01	—	08	01	—	00	—	—
	(RS)	82	03	—	12	03	—	00	—	00
	( R)	75	04	00	17	04	—	00	—	00
Dreamers	(SC)	05	22	00	02	71	00	—	00	00
	(RS)	16	29	—	07	47	00	—	00	00
	( R)	04	22	01	04	67	01	00	00	—
Men's men	(SC)	58	03	00	22	16	00	01	—	—
	(RS)	32	02	—	19	45	—	01	00	00
	( R)	48	12	01	25	17	00	02	00	00
Gamblers	(SC)	12	06	00	18	65	00	—	00	00
	(RS)	19	05	—	31	44	01	01	—	00
	( R)	05	06	00	23	64	01	—	01	—
Rough	(SC)	17	05	—	32	45	01	00	00	00
	(RS)	06	05	—	39	49	—	00	—	00
	( R)	18	06	00	42	32	01	00	—	00
Reckless	(SC)	07	09	00	08	76	00	—	00	—
	(RS)	09	11	—	20	59	00	—	—	00
	( R)	06	08	00	10	63	01	—	01	00
Savvy	(SC)	83	02	01	10	03	00	01	00	00
	(RS)	67	03	00	20	08	00	01	00	00
	( R)	61	16	02	12	07	01	01	01	00
Good mechanics	(SC)	54	01	00	41	03	00	01	—	00
	(RS)	41	03	—	47	09	—	01	—	00
	( R)	48	02	00	43	05	—	01	—	—

SC—Submarine Candidates  
RS—Receiving Station Personnel  
R—Recruits

**APPENDIX B—TABLE 1 (Continued)**

Items		I am — S'ers are	I am — S'ers are not	I am — No resp.	I am not — S'ers are	I am not — S'ers are not	I am not — No resp.	No resp. — S'ers are	No resp. — S'ers are not	No resp. No resp.
Natural	(SC)	94	03	00	02	01	—	00	—	—
	(RS)	86	09	—	04	01	—	00	—	00
	( R )	84	12	00	03	01	00	00	—	—
Good pals	(SC)	97	01	00	01	01	—	00	—	00
	(RS)	88	04	00	06	01	—	—	—	00
	( R )	92	05	01	01	00	—	00	—	00
Gripers	(SC)	04	08	—	03	83	01	—	00	00
	(RS)	16	19	—	10	54	—	—	00	00
	( R )	06	08	00	11	71	02	01	00	01
Tough	(SC)	30	02	00	47	21	00	00	00	00
	(RS)	10	02	—	45	42	—	—	00	00
	( R )	26	06	00	54	12	01	01	—	—
Good looking	(SC)	30	12	00	26	30	01	—	—	—
	(RS)	12	15	—	16	56	00	00	00	00
	( R )	32	17	02	26	21	01	01	00	00
Overpaid	(SC)	01	02	—	05	93	00	00	00	00
	(RS)	02	03	—	08	87	00	—	00	00
	( R )	01	02	—	07	88	01	00	00	00
Easily upset.	(SC)	01	03	—	03	92	00	—	00	—
	(RS)	05	24	—	07	64	—	—	00	00
	( R )	04	12	00	10	72	01	00	00	00
Looked up to	(SC)	56	01	—	40	03	00	01	—	00
	(RS)	42	05	—	41	11	—	00	01	00
	( R )	48	04	00	39	08	—	01	—	—

SC—Submarine Candidates  
RS—Receiving Station Personnel  
R—Recruits

# APPENDIX B

Table 2—Frequencies and Percentages of Respondents among the Submarine Candidate, Receiving Station and Recruit Groups, who Considered Items of the Submariner Stereotype as Most Important in Submariners, and the Frequencies and Percentages of the Respondents in each Group who Showed Consistent Type Responses.

Items	(SC)				(R)				(RS)			
	Considered Most Important		Consistent* Type Responses		Considered Most Important		Consistent* Type Responses		Considered Most Important		Consistent* Type Responses	
	f	%	f	% of F	f	%	f	% of F	f	%	f	% of F
Hard workers	441	40	433	98	195	39	187	96	174	36	163	94
Clean	466	42	461	99	183	37	182	100	214	45	207	97
Strong	18	2	13	72	36	7	31	86	21	4	13	62
Ladies' men	18	2	13	72	12	2	11	92	6	1	4	67
Bright	43	4	38	88	31	6	26	84	32	7	24	75
Generous	13	1	13	100	7	1	7	100	30	6	27	90
Fond of liberty	72	7	65	90	27	5	26	96	41	9	37	90
Shy	2	0	2	100	40	8	29	73	3	1	3	100
Brave	179	16	159	89	144	29	110	76	84	17	49	58
Thrifty	8	1	8	100	17	3	16	94	14	3	11	79
Good teachers	69	6	50	73	22	4	11	50	42	9	32	76
Reliable	819	74	815	100	218	44	216	99	227	47	222	98
Humorous	60	5	52	87	17	3	14	82	25	5	22	88
Good mixers	310	28	298	96	71	14	66	93	91	19	77	85
Fighters	98	9	65	66	114	23	55	48	53	11	24	45
Studious	114	10	98	86	32	6	21	66	41	9	28	68
Alert	703	63	693	99	286	57	275	96	245	51	225	92
Modest	31	3	27	87	17	3	11	65	14	3	9	64
Prompt	294	27	287	98	138	28	131	95	101	21	88	86
Silent	83	8	67	81	35	7	29	83	22	5	15	68
Cocky	14	11	6	43	14	3	4	29	11	2	2	18
Spenders	8	1	5	63	3	1	1	33	8	2	7	88
Regulation	94	9	84	89	48	10	31	65	93	19	70	75
Drinking men	11	1	6	55	14	3	9	64	22	5	14	64
Proud	265	24	259	98	91	18	78	86	119	25	102	86
Dreamers	7	1	7	100	4	1	3	75	3	1	3	100
Men's men	72	7	58	81	33	7	23	70	24	5	18	75
Gamblers	6	1	4	67	9	2	3	33	12	2	6	50
Rough	17	2	10	59	13	3	5	39	11	2	2	18
Reckless	13	1	12	92	10	2	5	50	13	3	7	54
Savvy	153	14	137	90	15	3	14	93	74	15	58	76
Good mechanics	278	25	189	68	162	32	84	52	161	34	101	63
Natural	78	7	78	100	26	5	24	92	53	11	50	94
Good pals	378	34	376	100	107	21	106	99	87	18	84	97
Grippers	18	2	14	78	7	1	6	86	10	2	3	30

\* Consistency between self-picture and submariner stereotype; figures represent summation of frequencies on response types: I am — Submariners are; I am not — Submariners are not; and No response — No response.

**APPENDIX B—TABLE 2 (Continued)**

Items	(SC)				(R)				(RS)			
	Considered Most Important		Consistent* Type Responses		Considered Most Important		Consistent* Type Responses		Considered Most Important		Consistent* Type Responses	
	f	%	f	% of F	f	%	f	% of F	f	%	f	% of F
Tough	24	2	14	58	53	11	25	47	30	6	11	37
Good looking	1	0	1	100	6	1	2	33	5	1	3	60
Over paid	40	4	39	98	47	9	45	96	40	8	26	65
Easily upset	47	4	44	94	21	4	15	71	33	7	21	64
Looked up to	186	17	127	68	83	17	48	58	97	20	57	59

\* Consistency between self-picture and submariner stereotype; figures represent summation of frequencies on response types: I am — Submariners are; I am not — Submariners are not; and No response — No response.

## APPENDIX B

**Table 3—Frequencies and Percentages of Respondents Among the Submarine Candidate, Receiving Station and Recruit Groups, who Considered items of the Submariner Stereotype as Most Important in Themselves, and the Frequencies and Percentages of the Respondents in each Group who Showed Consistent Type Responses.**

Items	(SC)				(R)				(RS)			
	Considered Most Important		Consistent* Type Responses		Considered Most Important		Consistent* Type Responses		Considered Most Important		Consistent* Type Responses	
	f	%	f	% of F	f	%	f	% of F	f	%	f	% of F
Hard workers	659	53	647	99	331	66	321	97	279	58	263	94
Clean	730	66	702	96	350	70	341	97	307	64	306	97
Strong	33	3	14	42	28	6	26	93	16	3	12	75
Ladies' men	17	2	13	77	21	4	18	86	10	2	10	100
Bright	64	6	62	97	56	11	45	80	40	8	36	90
Generous	95	9	94	99	27	5	24	89	74	15	67	91
Fond of liberty	110	10	106	96	89	18	83	93	57	12	54	95
Shy	4	0	0	0	2	0	2	100	7	2	1	14
Brave	64	6	57	89	30	6	30	100	22	5	15	68
Thrifty	88	8	45	51	74	15	52	70	64	13	38	59
Good teachers	59	5	55	93	31	6	22	71	64	13	50	78
Reliable	818	74	814	100	315	63	310	98	308	64	299	97
Humorous	63	6	58	92	37	7	33	89	34	7	27	79
Good mixers	322	29	309	96	120	24	107	89	110	23	87	79
Fighters	22	2	20	91	17	3	11	65	9	2	8	89
Studious	150	14	139	93	48	10	37	77	62	13	43	69
Alert	529	48	524	99	207	41	202	98	156	32	152	97
Modest	44	4	32	73	12	2	7	58	43	9	22	51
Prompt	360	32	352	98	130	26	119	92	124	26	107	86
Silent	57	5	44	77	14	3	8	57	25	5	14	56
Cocky	16	1	9	56	6	1	3	50	4	1	1	25
Soenders	14	1	8	57	8	2	2	25	7	1	3	43
Regulation	140	13	120	86	64	13	54	84	81	17	57	70
Drinking men	58	5	32	55	40	8	25	63	41	9	26	63
Proud	167	15	165	99	60	12	52	87	70	15	66	94
Dreamers	6	1	3	50	6	1	3	50	13	3	2	15
Men's men	31	3	30	97	39	8	32	82	10	2	9	90
Gamblers	36	3	17	47	12	2	6	50	13	3	9	69
Rough	6	1	4	67	4	1	2	50	1	0	1	100
Reckless	17	2	14	82	5	1	3	60	6	1	4	67
Savvy	97	9	89	92	26	5	22	85	18	4	14	78
Good mechanics	160	14	146	91	60	12	55	92	61	13	54	89
Natural	148	13	146	99	60	12	49	82	72	15	65	90
Good pals	226	20	225	100	70	14	68	97	68	14	65	96
Grippers	11	1	9	82	4	1	3	75	11	2	7	64

\* Consistency between self-picture and submariner stereotype; figures represent summation of frequencies on response types: I am — Submariners are; I am not — Submariners are not; and No response — No response.

**APPENDIX B—TABLE 3 (Continued)**

Items	(SC)				(R)				(RS)			
	Considered Most Important		Consistent* Type Responses		Considered Most Important		Consistent* Type Responses		Considered Most Important		Consistent* Type Responses	
	f	%	f	% of F	f	%	f	% of F	f	%	f	% of F
Tough	4	0	3	75	2	0	1	50	1	0	1	100
Good looking	10	1	7	70	6	1	1	15	2	0	0	0
Overpaid	35	3	35	100	14	3	12	86	21	4	17	81
Easily upset	47	4	46	98	6	1	3	50	19	4	9	47
Looked up to	36	3	32	89	26	5	19	73	43	9	35	81

\* Consistency between self-picture and submariner stereotype; figures represent summation of frequencies on response types: I am — Submariners are; I am not — Submariners are not; and No response — No response.



## APPENDIX B

**Table 4—Frequencies and Percentages of Submarine School Candidates who Considered Items of the Submarine Stereotype as Important in Both Submariners and Themselves.**

Items	F	% of total	Items	F	% of total
Hard worker(s)	306	29	Cocky	—	—
Clean	383	37	Spender(s)	2	0
Strong	3	0	Regulation	44	4
Ladies' men	6	1	Drinking men	4	0
Bright	16	2	Proud	85	8
Generous	5	0	Dreamer(s)	—	—
Fond of liberty	34	3	Men's men	11	1
Brave	31	3	Gambler(s)	2	0
Thrifty	2	0	Rough	2	0
Shy	—	—	Reckless*	3	0
Good teacher(s)	24	2	Savvy	50	5
Reliable	666	64	Good mechanic(s)	96	9
Humorous	12	1	Natural	30	3
Good mixer(s)	157	15	Good pal(s)	110	11
Fighters	4	0	Griper(s)	—	—
Studious	46	4	Tough	—	—
Alert	406	39	Good looking	—	—
Modest	9	1	Overpaid*	15	1
Prompt	149	14	Easily upset*	16	2
Silent	16	2	Looked up to	18	2

\*Items responded to largely as I am not — submariners are not, whereas the remaining items are largely I am—submariners are

## APPENDIX C

TABLE 1. TOTAL NUMBER OF CHANGES PER ITEM ON THE SUBMARINER STEREOTYPE AND THE FREQUENCIES AND PERCENTAGES OF THESE CHANGES WHICH ARE CHANGES IN SELF-PICTURE, SUBMARINER PICTURE AND BOTH

TABLE 2. RELATIVE STABILITY OF ITEMS CONSIDERED MOST IMPORTANT IN SELF-PICTURE AND SUBMARINER PICTURE OF THE ITEMS ON THE SUBMARINER STEREOTYPE BY 109 SUBMARINE CANDIDATES

# APPENDIX C

Table 1—Total Number of Changes Per Item on the Submariner Stereotype and the Frequencies and Percentages of These Changes Which are Changes in Self-Picture, Submariner Picture and Both.

Item	Changes in Self-Concept		Changes in Submariner Concept		Changes in Both		Total No. of Changes
	f	%	f	%	f	%	
Hard worker(s)	4	36*	6	54**	1	9	11
Clean	0	0	17	94*	1	6	18
Strong	22	55*	12	30*	6	15	40
Ladies' man	14	32**	24	55**	6	14	44
Bright	18	72*	4	16*	3	12	25
Generous	4	31**	7	54**	2	15	13
Fond of liberty	8	47***	5	29***	4	24	17
Shy	18	56*	9	28**	5	16	32
Brave	24	65*	5	14*	8	22	37
Thrifty	22	48**	15	33**	9	20	46
Good teacher(s)	27	82*	3	9***	3	9	33
Reliable	2	100**	0	0	0	0	2
Humorous	2	61*	6	26**	3	13	23
Good mixer(s)	14	80***	2	13*	1	7	15
Fighter(s)	12	29***	32	63*	4	8	51
Studious	15	60*	5	17*	7	23	30
Alert	3	60*	1	20**	1	20	5
Modest	13	35*	13	35*	11	30	37
Prompt	4	50***	2	52***	2	25	8
Silent	20	40**	24	48*	6	12	50
Cocky	6	18*	20	59*	6	24	34
Spender(s)	16	28*	27	47**	14	25	57
Regulation	6	15**	22	54*	13	32	41
Drinking man	9	20*	27	59**	10	22	46
Proud	14	52*	7	26*	6	22	27
Dreamer(s)	21	48*	15	34**	8	18	44
Man's man	19	33*	22	38*	17	29	58
Gambler(s)	4	13*	19	61***	8	26	31
Rough	8	21***	25	64**	6	15	39
Reckless	10	32*	13	42**	8	26	31
Savvy	21	66**	3	9**	8	25	32
Good mechanic(s)	17	71***	7	29**	0	0	24
Natural	4	33***	8	67**	0	0	12
Good pal(s)	2	50*	1	25*	1	25	4
Griper(s)	8	44**	3	17**	7	39	18
Tough	14	34**	23	56*	4	10	41
Good looking	14	27**	30	58*	8	15	52
Overpaid	4	36**	4	36*	3	27	11
Easily upset	10	59*	4	24*	3	18	17
Looked up to	28	74*	5	13**	5	13	38

\*Changes predominantly of the type I am -- I am not or Submariners are -- Submariners are not.

\*\*Changes predominantly of the type I am not -- I am or Submariners are not -- Submariners are.

\*\*\*Equal number of changes in both types

# APPENDIX C

**TABLE 2—Relative Stability of Items Considered Most Important on Submariner Stereotype by 109 Submarine Candidates**

Item	Self-Picture				Submariner Picture			
	Cases Rating Importance Administration I		Cases of F Consistent in Importance Rating on Administration II		Cases Rating Importance Administration I		Cases of F Consistent in Importance Rating on Administration II	
	F	%	f	% of F	F	%	f	% of F
Hard worker(s)	65	60	45	69	46	42	28	61
Clean	70	64	46	66	44	40	19	43
Strong	2	2	1	50	2	2	0	0
Ladies' men	0	0	0	0	0	0	0	0
Generous	7	6	2	29	2	2	0	0
Fond of liberty	3	3	1	33	5	5	3	60
Shy	2	2	0	0	0	0	0	0
Brave	7	6	3	43	15	14	6	40
Thrifty	9	8	3	33	0	0	0	0
Good teacher(s)	4	4	1	25	8	7	4	50
Reliable	76	70	61	80	84	77	59	70
Humorous	4	4	0	0	9	8	2	22
Good mixer(s)	27	25	13	48	35	32	15	43
Fighter(s)	2	2	0	0	4	4	1	25
Studious	14	13	2	14	13	12	1	8
Alert	43	39	30	70	70	64	42	60
Modest	5	5	1	20	2	2	0	0
Prompt	28	26	14	50	35	32	13	37
Silent	4	4	0	0	6	6	1	17
Cocky	0	0	0	0	0	0	0	0
Spender(s)	0	0	0	0	0	0	0	0
Regulation	7	6	3	43	5	5	2	40
Drinking men	6	6	1	17	0	0	0	0
Proud	16	15	8	50	28	26	13	46
Dreamer(s)	2	2	1	50	0	0	0	0
Men's men	0	0	0	0	5	5	1	20
Gambler(s)	2	2	0	0	0	0	0	0
Rough	0	0	0	0	0	0	0	0
Reckless	2	2	1	50	1	1	0	0
Savvy	6	6	2	33	10	9	4	40
Good mechanic(s)	11	10	6	55	26	24	16	62
Natural	9	8	2	22	3	3	1	33
Good pal(s)	18	17	7	39	38	35	20	53
Griper(s)	3	3	0	0	3	3	0	0
Tough	0	0	0	0	0	0	0	0
Good looking	0	0	0	0	0	0	0	0
Easily upset	13	12	2	15	13	12	1	8
Overpaid	1	1	0	0	1	1	0	0
Looked up to	5	5	0	0	9	8	4	44

## APPENDIX D

TABLE 1. THE DISTRIBUTIONS OF THE FOLLOWING FOUR GROUPS OF SUBMARINE CANDIDATES FOR EACH MANNER OF RESPONSE TO THE ITEMS OF THE SUBMARINER STEREOTYPE:

- (1) SUCCESSFUL SUBMARINE SCHOOL CANDIDATES(SSC)N-994
- (2) ACADEMICALLY DISQUALIFIED (AD).....N-32
- (3) TEMPERAMENTALLY DISQUALIFIED (TD).....N-57
- (4) PHYSICALLY DISQUALIFIED (PD)..... N-42

TABLE 2. PERCENTAGES OF SUCCESSFUL AND UNSUCCESSFUL SUBMARINE SCHOOL CANDIDATES WHO CONSIDERED ITEMS OF THE SUBMARINER STEREOTYPE AS MOST IMPORTANT IN THEMSELVES AND IN SUBMARINERS

# APPENDIX D

Table 1—The Distributions of Successful Submarine School Candidates (SSC) and the Academically Disqualified (AD), the Temperamentally Disqualified (TD), and the Physically Disqualified (PD) Groups.

Items		I am — S's are	I am — S's are not	I am — No resp.	I am not — S's are	I am not — S's are not	I am not — No resp.	No resp. — S's are	No resp. — S's are not	No resp. — No resp.
Hard workers	(TD)	93	02	—	05	—	—	—	—	—
	(PD)	100	—	—	—	—	—	—	—	—
	(AD)	94	—	—	06	—	—	—	—	—
	(SSC)	95	01	00	03	00	00	—	—	—
Clean	(TD)	97	03	—	—	—	—	—	—	—
	(PD)	100	—	—	—	—	—	—	—	—
	(AD)	97	03	—	—	—	—	—	—	—
	(SSC)	95	05	00	00	—	—	—	00	—
Strong	(TD)	70	03	—	23	04	—	—	—	—
	(PD)	71	05	02	21	—	—	—	—	—
	(AD)	78	03	—	19	—	—	—	—	—
	(SSG)	77	05	00	14	03	00	00	—	00
Ladle's man	(TD)	37	02	—	37	23	02	—	—	—
	(PD)	31	—	—	50	14	02	—	02	—
	(AD)	44	06	—	28	22	—	—	—	—
	(SSG)	32	03	00	42	23	—	00	—	00
Bright	(TD)	65	02	02	25	07	—	—	—	—
	(PD)	76	02	02	17	02	—	—	—	—
	(AD)	84	—	—	16	—	—	—	—	—
	(SSC)	82	01	00	15	02	00	00	—	00
Generous	(TD)	82	05	—	07	04	—	—	02	—
	(PD)	81	07	05	07	—	—	—	—	—
	(AD)	100	—	—	—	—	—	—	—	—
	(SSC)	91	03	01	05	00	—	—	—	00
Fond of liberty	(TD)	95	02	—	04	—	—	—	—	—
	(PD)	90	02	02	05	—	—	—	—	—
	(AD)	94	—	—	06	—	—	—	—	—
	(SSC)	93	00	00	03	02	—	—	—	00
Shy	(TD)	—	32	—	—	68	—	—	—	—
	(PD)	02	24	—	02	69	02	—	—	—
	(AD)	03	16	—	06	75	—	—	—	—
	(SSC)	04	24	00	03	68	00	—	—	—
Brave	(TD)	63	—	—	33	04	—	—	—	—
	(PD)	69	—	02	26	—	02	—	—	—
	(AD)	72	—	—	25	—	03	—	—	—
	(SSC)	74	01	00	23	02	—	00	00	—
Thrifty	(TD)	46	12	—	21	21	—	—	—	—
	(PD)	45	17	—	24	12	02	—	—	—
	(AD)	59	09	—	13	19	—	—	—	—
	(SSC)	46	17	01	16	20	00	00	00	00
Good teachers	(TD)	49	05	—	39	07	—	—	—	—
	(PD)	55	02	02	38	02	—	—	—	—
	(AD)	59	06	—	34	—	—	—	—	—
	(SSC)	61	02	00	33	02	00	00	—	00

SC—Submarine Candidates  
RS—Receiving Station Personnel  
R—Recruits

**APPENDIX D—TABLE 1 (Continued)**

Items		I am — S'ers are	I am — S'ers are not	I am — No resp.	I am not — S'ers are	I am not — S'ers are not	I am not — No resp.	No resp. — S'ers are	No resp. — S'ers are not	No resp. No resp.
Reliable	(TD)	98	—	—	02	—	—	—	—	—
	(PD)	100	—	—	—	—	—	—	—	—
	(AD)	100	—	—	—	—	—	—	—	—
	(SSC)	99	00	00	00	00	—	—	00	00
Humorous	(TD)	70	02	—	16	09	02	02	—	—
	(PD)	71	—	02	21	05	—	—	—	—
	(AD)	87	—	—	06	03	—	03	—	—
	(SSC)	74	03	00	18	04	00	01	00	00
Good mixers	(TD)	86	—	—	11	02	—	02	—	—
	(PD)	86	—	02	07	02	—	—	—	—
	(AD)	81	06	—	13	—	—	—	—	—
	(SSC)	89	01	00	09	01	00	00	00	00
Fighters	(TD)	51	—	—	37	11	02	—	—	—
	(PD)	60	—	02	36	02	—	—	—	—
	(AD)	59	—	—	37	03	—	—	—	—
	(SSC)	43	01	00	44	11	00	00	00	00
Studious	(TD)	72	04	—	25	—	—	—	—	—
	(PD)	74	—	—	26	—	—	—	—	—
	(AD)	75	—	—	25	—	—	—	—	—
	(SSC)	77	03	00	15	04	00	00	—	00
Alert	(TD)	95	—	—	05	—	—	—	—	—
	(PD)	98	—	—	02	—	—	—	—	—
	(AD)	100	—	—	—	—	—	—	—	—
	(SSC)	99	00	00	01	—	—	00	—	—
Modest	(TD)	56	09	—	16	18	02	—	—	—
	(PD)	60	14	02	14	10	—	—	—	—
	(AD)	72	06	—	06	16	—	—	—	—
	(SSC)	55	16	00	11	16	—	00	00	00
Prompt	(TD)	95	—	—	05	—	—	—	—	—
	(PD)	98	—	—	02	—	—	—	—	—
	(AD)	97	03	—	—	—	—	—	—	—
	(SSC)	95	02	00	03	01	—	00	—	—
Silent	(TD)	37	16	—	21	26	—	—	—	—
	(PD)	43	19	02	14	21	—	—	—	—
	(AD)	37	13	—	22	28	—	—	—	—
	(SSC)	46	15	00	13	24	—	00	00	00
Cocky	(TD)	14	04	—	32	51	—	—	—	—
	(PD)	07	—	—	52	31	—	—	—	—
	(AD)	16	03	—	19	62	—	—	—	—
	(SSC)	09	02	00	28	60	00	—	—	—
Spenders	(TD)	46	14	—	18	23	—	—	—	—
	(PD)	31	21	02	17	29	—	—	—	—
	(AD)	37	28	—	03	31	—	—	—	—
	(SSC)	31	16	00	22	31	00	00	00	00
Regulation	(TD)	65	11	—	14	11	—	—	—	—
	(PD)	64	19	02	10	05	—	—	—	—
	(AD)	67	13	—	03	09	—	06	—	—
	(SSC)	58	19	00	05	18	00	00	00	00
Drinking men	(TD)	12	12	—	18	58	—	—	—	—
	(PD)	12	14	—	12	60	02	—	—	—
	(AD)	09	09	—	16	66	—	—	—	—
	(SSC)	11	08	00	16	63	00	—	—	00

SC—Submarine Candidates  
RS—Receiving Station Personnel  
R—Recruits

**APPENDIX D—TABLE 1 (Continued)**

Items		I am — S'ers are		I am — S'ers are not		I am — No resp.		I am not — S'ers are		I am not — S'ers are not		I am not — No resp.		No resp. — S'ers are		No resp. — S'ers are not		No resp. — No resp.	
Proud	(TD)	89	02	—	—	07	—	—	—	—	—	—	—	—	—	—	—	—	—
	(PD)	90	—	—	—	07	02	—	—	—	—	—	—	—	—	—	—	—	—
	(AD)	84	—	—	—	13	03	—	—	—	—	—	—	—	—	—	—	—	—
	(SSC)	89	01	00	08	01	—	—	00	—	—	—	—	—	—	—	—	—	—
Dreamers	(TD)	09	26	—	—	02	63	—	—	—	—	—	—	—	—	—	—	—	—
	(PD)	02	26	—	—	02	69	—	—	—	—	—	—	—	—	—	—	—	—
	(AD)	13	06	—	—	03	78	—	—	—	—	—	—	—	—	—	—	—	—
	(SSC)	05	22	00	02	70	00	—	—	—	—	—	—	—	—	00	—	—	—
Men's men	(TD)	54	—	—	—	19	25	—	—	—	—	—	—	—	—	—	—	—	—
	(PD)	55	07	02	—	21	12	—	—	—	—	—	—	—	—	—	—	—	—
	(AD)	53	—	—	—	28	16	—	—	—	—	—	—	—	—	—	—	—	—
	(SSC)	59	03	00	22	15	00	01	—	—	—	—	—	—	—	00	—	—	—
Gamblers	(TD)	12	04	—	—	16	65	—	—	—	—	—	—	—	—	—	—	—	—
	(PD)	12	07	—	—	14	67	—	—	—	—	—	—	—	—	—	—	—	—
	(AD)	13	13	—	—	09	66	—	—	—	—	—	—	—	—	—	—	—	—
	(SSC)	11	06	00	18	65	00	—	—	—	—	—	—	—	—	00	—	—	—
Rough	(TD)	21	07	—	—	37	35	—	—	—	—	—	—	—	—	—	—	—	—
	(PD)	19	—	—	—	33	45	02	—	—	—	—	—	—	—	—	—	—	—
	(AD)	16	03	—	—	53	28	—	—	—	—	—	—	—	—	—	—	—	—
	(SSC)	18	05	00	31	46	01	00	—	—	—	—	—	—	—	00	—	—	—
Reckless	(TD)	12	11	—	—	04	74	—	—	—	—	—	—	—	—	—	—	—	—
	(PD)	07	17	—	—	05	71	—	—	—	—	—	—	—	—	—	—	—	—
	(AD)	09	03	—	—	03	84	—	—	—	—	—	—	—	—	—	—	—	—
	(SSC)	06	09	00	08	76	00	—	—	—	—	—	—	—	—	—	—	—	—
Sawvy	(TD)	75	05	02	—	14	04	—	—	—	—	—	—	—	—	—	—	—	—
	(PD)	88	—	—	—	07	05	—	—	—	—	—	—	—	—	—	—	—	—
	(AD)	84	03	03	—	13	—	—	—	—	—	—	—	—	—	—	—	—	—
	(SSC)	83	02	01	10	03	00	01	—	—	—	—	—	—	—	00	—	—	—
Good mechanics	(TD)	47	—	—	—	53	—	—	—	—	—	—	—	—	—	—	—	—	—
	(PD)	52	—	—	—	43	02	02	—	—	—	—	—	—	—	—	—	—	—
	(AD)	44	03	—	—	50	03	—	—	—	—	—	—	—	—	—	—	—	—
	(SSC)	55	02	00	39	03	00	01	—	—	—	—	—	—	—	00	—	—	—
Natural	(TD)	95	02	02	—	02	—	—	—	—	—	—	—	—	—	—	—	—	—
	(PD)	90	02	—	—	02	02	—	—	—	—	—	—	—	—	—	—	—	—
	(AD)	94	03	—	—	03	—	—	—	—	—	—	—	—	—	—	—	—	—
	(SSC)	94	03	00	02	01	—	—	—	—	—	—	—	—	—	—	—	—	—
Good pals	(TD)	95	02	—	—	02	02	—	—	—	—	—	—	—	—	—	—	—	—
	(PD)	95	—	—	—	02	02	—	—	—	—	—	—	—	—	—	—	—	—
	(AD)	94	—	—	—	03	03	—	—	—	—	—	—	—	—	—	—	—	—
	(SSC)	97	00	00	01	01	—	—	—	—	—	—	—	—	—	00	—	—	—
Grippers	(TD)	02	16	—	—	09	73	—	—	—	—	—	—	—	—	—	—	—	—
	(PD)	—	05	—	—	—	93	02	—	—	—	—	—	—	—	—	—	—	—
	(AD)	03	06	—	—	03	87	—	—	—	—	—	—	—	—	—	—	—	—
	(SSC)	05	08	—	—	03	83	00	—	—	—	—	—	—	—	00	—	—	—
Tough	(TD)	37	—	—	—	46	18	—	—	—	—	—	—	—	—	—	—	—	—
	(PD)	27	—	—	—	52	17	02	—	—	—	—	—	—	—	—	—	—	—
	(AD)	31	09	—	—	50	09	—	—	—	—	—	—	—	—	—	—	—	—
	(SSC)	29	02	00	46	21	00	00	—	—	—	—	—	—	—	00	—	—	—
Good looking	(TD)	19	19	—	—	28	32	—	—	—	—	—	—	—	—	02	—	—	—
	(PD)	31	05	02	—	33	26	02	—	—	—	—	—	—	—	—	—	—	—
	(AD)	34	19	—	—	22	25	—	—	—	—	—	—	—	—	—	—	—	—
	(SSC)	30	12	00	26	30	01	00	—	—	—	—	—	—	—	00	—	—	—

SC—Submarine Candidates  
 RS—Receiving Station Personnel  
 R—Recruits



**APPENDIX D—TABLE 1 (Continued)**

Items		I am — S'ers are	I am — S'ers are not	I am — No resp.	I am not — S'ers are	I am not — S'ers are not	I am not — No resp.	No resp. — S'ers are	No resp. — S'ers are not	No resp. No resp.
Overpaid	(TD)	—	—	—	02	98	—	—	—	—
	(PD)	—	02	—	—	98	—	—	—	—
	(AD)	03	—	—	06	91	—	—	—	—
	(SSC)	01	02	—	05	93	00	00	00	—
Easily upset	(TD)	02	04	—	02	93	—	—	—	—
	(PD)	02	02	—	—	95	—	—	—	—
	(AD)	03	06	—	03	87	—	—	—	—
	(SSC)	01	03	—	03	92	00	—	—	—
Looked up to	(TD)	61	00	00	37	02	—	—	—	—
	(PD)	50	—	—	50	—	—	—	—	—
	(AD)	56	—	—	37	—	03	03	—	—
	(SSC)	56	01	00	40	03	—	01	00	—

SC—Submarine Candidates

RS—Receiving Station Personnel

R—Recruits

## APPENDIX D

Table 2—Percentages of Successful and Unsuccessful Submarine School Candidates who Considered Items of the Submariner Stereotype as Most Important in Themselves and in Submariners.

Item	Successful Submarine Candidates		Academically Disqualified		Temperamentally Disqualified		Physically Disqualified	
	Selves	Sub'ers	Selves	Sub'ers	Selves	Sub'ers	Selves	Sub'ers
Hard worker(s)	59	39	53	53	62	37	60	33
Clean	65	41	78	56	61	39	64	45
Strong	3	2	6	—	2	—	5	2
Ladies' men	2	2	—	—	2	2	2	2
Bright	6	4	6	6	—	2	7	—
Generous	8	1	3	3	9	—	12	—
Fond of liberty	9	6	3	3	18	11	12	5
Shy	0	0	3	3	4	—	—	—
Brave	6	16	6	25	11	14	2	14
Thrifty	8	1	6	—	9	—	5	—
Good teacher(s)	5	6	13	3	5	9	—	10
Reliable	72	74	84	63	74	68	71	71
Humorous	5	6	9	3	5	4	12	5
Good mixer(s)	29	28	22	25	28	19	21	24
Fighter(s)	2	8	—	13	4	12	7	24
Studious	14	10	6	9	9	12	7	7
Alert	47	62	69	72	39	68	46	60
Modest	4	3	—	—	—	2	2	2
Prompt	32	25	22	19	26	30	46	43
Silent	5	7	6	9	5	9	7	5
Cocky	1	1	—	3	2	—	2	—
Spender(s)	1	1	—	—	—	—	—	—
Regulation	12	8	13	9	21	14	19	12
Drinking men	5	1	3	3	7	—	—	2
Proud	14	24	28	19	14	23	7	26
Dreamer(s)	0	0	—	—	2	2	2	2
Men's men	3	6	6	13	2	4	—	10
Gambler(s)	3	1	—	—	5	—	5	—
Rough	0	2	—	—	2	2	—	—
Reckless	2	1	—	—	4	2	—	—
Savvy	9	14	3	13	11	18	2	7
Good mechanic(s)	14	24	6	16	23	34	14	26
Natural	13	7	13	6	21	5	7	2
Good pal(s)	21	34	19	31	12	32	21	36
Griper(s)	1	1	—	—	—	4	—	—
Tough	0	2	—	—	2	4	2	—
Good looking	1	0	—	—	2	—	—	—
Overpaid	3	4	3	—	—	4	5	5
Easily upset	4	4	3	3	7	4	7	5
Looked up to	3	16	6	19	—	19	2	14